REMARKS

Initially, the Applicant would like to thank the Examiner for reaffirming acceptance of the drawings filed November 30, 1999, and the Examiner's acknowledgement of Applicant's claim for foreign priority under 35 U.S.C. § 119 (a) – (d) or (f), as well as notation that all of the certified copies of the priority documents have been received.

Upon entry of this Reply, claims 1 and 3-18 will be pending in the application. Claims 1 and 10 will have been amended to include the claimed subject matter of original claim 2. Claim 2 will have been canceled, without prejudice or disclaimer. Claims 13-18 will have been added to afford the Applicant a scope of protection commensurate with his invention.

Reconsideration of the rejections and allowance of the pending application in view of the foregoing amendments and following remarks is respectfully requested.

In the Office Action of January 26, 2006, claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over MIYAMOTO, U.S. Patent No. 6,593,965 in view of KONDO, *et al.*, U.S. Patent No. 5,912,708. This rejection is respectfully traversed.

The undersigned submits that the Office Action has failed to establish a *prima facie* case of obviousness because one of ordinary skill in the art would not have been motivated to combine MIYAMOTO with KONDO *et al.* as proposed by the Action. Furthermore, even if such a combination were *arguendo* possible, the resultant combination system would still fail to teach all of the claimed subject matter recited in claim 10, or any of the other remaining claims pending upon entry of this Reply.

Referring to Figures 2 and 4 and the corresponding text, for example, MIYAMOTO teaches two embodiments for carrying out his invention. In the first

embodiment, *i.e.* Fig. 2, MIYAMOTO teaches using an interpolation system that reduces an original image by averaging four color pixel values for each color to derive a single pixel data. See, *e.g.*, column 4, line 17 through column 5, line 6, MIYAMOTO. In his second embodiment, MIYAMOTO teaches that his "pixel interpolation circuit 12 transmits no more than the first, second, fifth, and sixth lines of pixel data from the CCD."

KONDO *et al.* teaches a concept of pixel thinning akin to the above noted first embodiment of MIYAMOTO. Referring, *e.g.*, to column 12, lines 53-58, as well as Figures 8 and 9, KONDO *et al.* teach dividing an "HD picture into square blocks consisting of three horizontal pixels x three vertical pixels, that is, nine pixels, and ... [using] the average value of several pixels ... of the individual blocks as the pixel value of the center pixel, thereby forming the SD picture." If one were to attempt to combine KONDO *et al.* with MIYAMOTO, the ordinary skilled artisan would have been quick to recognize that such a combination would destroy the spirit and scope of the MIYAMOTO patent and would therefore have not been obvious.

MIYAMOTO, in no uncertain terms, teaches that it his invention was created to avoid having to store multiple rows of image data in order to average pixel data for a given color across an array of color pixels, which is exactly what KONDO *et al.* would suggest if applied to the color pixel array in MIYAMOTO. See, *e.g.*, column 1, lines 46 *et seq.*, MIYAMOTO. Thus, an attempt to combine MIYAMOTO with KONDO *et al.*, assuming *arguendo* that such a combination were possible, would result in a combination system that would take pixels, *e.g.*, R11, R15, R51 and R55 in Figure 3 of MIYAMOTO, and average their values to derive a value for a generated, virtual pixel

that would be located at the midpoint of the matrix shown in Figure 3 of MIYAMOTO. This, for the most part is how the disclosed prior art of MIYAMOTO, *i.e.* Figure 7, functioned. Hence, this combination, is exactly what MIYAMOTO was trying to avoid in the first place, in designing a system that reduced memory requirements. See, *e.g.*, column 1, lines 46.

However, in an effort to expedite prosecution, claim 10 has been amended to further recite, "wherein said colors of said original image data are arranged in such a manner that a (m x m) matrix, formed by said plurality of colors, is repeated, and said thinning processor thins out (m x (n-1)) number of pixel data for every (m x (n-1)+1) number of pixel data in a horizontal direction and a vertical direction of an image corresponding to said original image data, wherein each of "m" and "n" is a positive integer greater than 1."

The undersigned submits, *i.e.*, assuming *arugendo* that the combination of MIYAMOTO and KONDO *et al.*, as posited by the Official Action, were possible, the combination system would still fail to teach all of the claimed subject matter of claim 10. Namely, the combination of MIYAMOTO or KONDO *et al.* do not teach or suggest, alone or in combination, the above noted further recitation of claim 10, *i.e.* along with the remaining claimed subject matter of claim 10.

Thus, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 10 and an early indication of allowability of the claimed subject matter.

The Examiner also rejected claims 1-9, 11 and 12, in the above noted Office Action of January 26, 2006, as being unpatentable over MIYAMOTO in view of KONDO *et al.*, and further in view of TSANG *et al.* U.S. Patent No. 5,900,623. The Applicant

traverses this rejection and respectfully requests it's prompt withdrawal and allowance of all pending claims.

The undersigned submits the Office Action has failed to establish a *prima facie* case of obviousness. This rejection is based, *i.e.*, in part, on the combination of MIYAMOTO and KONDO *et al.*, which has been shown above to be improper for lack of motivation to combine. The third reference, the patent to TSANG *et al.*, fails to correct this inadequacy.

As discussed in detail above with respect to the Office Action's rejection of claim 10, MIYAMOTO explicitly teaches away from the Action's posited combination with KONDO *et al.* Additionally, even if such a combination were possible *arguendo*, the combination of MIYAMOTO and KONDO *et al.* fails to teach or suggest, alone or in combination all of the claimed subject matter of claims 1-9, 11 and 12, or newly added claims 13-18. And, TSANG *et al.* fail to cure the inadequacy of such a posited combination.

Independent claim 1 has been amended to further include the claimed subject matter of original claim 2. Claim 1 now further recites, "wherein said colors of said original image data are arranged in such a manner that a (m x m) matrix, formed by said plurality of colors, is repeated, and said thinning processor thins out (m x (n-1)) number of pixel data for every (m x (n-1)+1) number of pixel data in a horizontal direction and a vertical direction of an image corresponding to said original image data, wherein each of "m" and "n" is a positive integer greater than 1."

Newly added independent claim 13, in addition to other patentable provisions, further recites "a color filter affixed to the imaging device, wherein the color filter

comprises color filter elements of a plurality of colors arranged in a predetermined (mxm) matrix pattern, wherein each color filter element comprises at least one pixel; a thinning processor that thins out (mx(n-1)) number of pixels of the original image for every (mx(n-1)+1) number of pixels along each axis of the original image to generate a thinned image, wherein m and n are positive integers greater than 1, and wherein each pixel in the thinned image is separated from each other pixel by at least one pixel."

The undersigned submits that none of MIYAMOTO, KONDO *et al.*, nor TSANG *et al.* teach or suggest, alone or in combination, the above noted further recitations of claims 1 and 13 in conjunction with the remaining claimed subject matter.

Regarding the Office Action's rejection of original claim 2, now cancelled without prejudice or disclaimer, this rejection is clearly improper.

First, the original rejection of claim 1 was based on a combination of MIYAMOTO, KONDO *et al.* and TSANG *et al.* Hence, because claim 2 depended from claim 1, for the rejection to be proper, the Office Action would have had to treat claim 2 with an eye on combination teachings of all three references, taken as a whole, by one of ordinary skill in the art at the time the invention was made. Instead, the Office Action has only relied on MIYAMOTO, without consideration for the teachings of KONDO *et al.* and TSANG *et al.*

Next, the Office Action improperly and impermissibly relied on Official Notice to demonstrate that which the Examiner had to prove was known. In other words, the Office Action essentially says conclusively that the claimed subject matter was known at the time of the invention without any objective evidence to support the same. The undersigned respectfully submits that such was not well known. Thus, Applicant

submits that the Office Action has failed to establish a *prima facie* case of obviousness, and the rejection should be withdrawn.

Independent claims 1, 10 and 13 are now in condition for allowance in view of the Amendment and the above-noted remarks. Dependent claims 3-9, 11, 12 and 14-18 are also submitted to be in condition for allowance at least in view of their dependence from the allowable base claims and further based upon their recitations of additional features of the present invention.

Based on the above, it is respectfully submitted that this application is now in condition for allowance, and a Notice of Allowance is respectfully requested.

SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that Examiner's rejections under §103, in the outstanding Official Action dated January 26, 2006 should be withdrawn. The present Reply is in proper form, and none of the references either taken together or taken alone in any proper combination thereof, anticipates or renders obvious Applicant's invention. In addition, the applied references of record have been discussed and distinguished, while significant features of the present invention have been pointed out. Accordingly, Applicant requests timely allowance of the present application.

Applicant notes that this Reply is being made to advance prosecution of the application to allowance, and no acquiescence as to the propriety of the Examiner's rejections is made by the present Reply. All amendments to the claims which have been made in this Reply, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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